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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,398	07/23/2001	Raadhakrisman W Poovendran	1797.014PC02	1208

7590 10/04/2004

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EXAMINER

SON, LINH L D

ART UNIT	PAPER NUMBER
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2135

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/806,398

Applicant(s)

POOVENDRAN ET AL.

Examiner

Linh Son

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7 and 8.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 2-14** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Claims 2-14 consist solely of mathematical operations without practical application in the technological arts or simply manipulate abstract ideas without practical application in the technological arts.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, and 15-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Brennan et al, US Pat No. 5675649, hereinafter "Brennan".

4. As per claims 1 and 15, "a method of generating and managing shared keys for a plurality of members of a cluster, comprising the steps of

(a) system initialization to produce a functionally generated initial shared key;

(b) functional generation of a next shared key" " is taught by Brennan in (Col 3 lines 55-67, and Col 4 lines 23-35); and

"(c) key recovery in the event of either compromise or failure of a node" is taught by Brennan in (Col 5 line 45 to Col 6 line 10).

5. As per claim 2, "the method of claim 1, wherein step (a) comprises the steps of:

(i) generating a random initial one-time pad  $\alpha_{1,2}$  for each member,

(ii) Calculating an initial binding parameter  $\theta_i$  based on each  $\alpha$ , where  $\theta_i = \alpha_{1,1} \odot \alpha_{2,1} - - \odot \alpha_{n,1}$  wherein  $\odot$  is a commutative operator; and

(iii) sending  $\theta_i$ , and  $\alpha_i$  to each member  $l$ " is taught by Brennan in (Col 9 line 29-40 and Col 12 lines 47-63).

6. As per claim 16, "a computer program product comprising a computer usable medium having computer readable program code that executes on a computer that participates in the generation and management of shared keys for a plurality of members of a cluster, said computer readable program code comprising: (a) first computer readable program code logic for causing the Computer to participate in system initialization, wherein the initialization produces a fractionally generated initial shared key;

(b) Second computer readable program code logic for causing the computer to participate in the fractional generation of a next shared key” is taught by Brennan in (Col 3 lines 55-67, and Col 4 lines 23-35); and “third computer readable program code logic for causing the computer to participate in key recovery in the event of either compromise of failure of a node” is taught by Brennan in (Col 4 lines 30-35).

***Allowable Subject Matter***

7. The following is a statement of reasons for the indication of allowable subject matter: Claims 3-14 are allowable subject matter if the applicant can overcome the 101 non-statutory subject matter rejection above. Claims 3-14 are claiming a method of creating a strong sharing keys, creating a new sharing keys for a new member, and recovering the sharing key if compromised or lost. These claims disclose a distinct invention in detail. Applicant needs to make appropriate correction to the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

**Conclusion**

8. Any inquiry concerning this communication from the examiner should be directed to Linh Son whose telephone number is (703)-305-8914.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Kim Y. Vu can be reached at (703)-305-4393. The fax numbers for this group are (703)-872-9306 (official fax). Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)-305-9600.

10. Please notice. Due to the Office moving, the telephone numbers above will only be valid until October 15<sup>th</sup> of 2004. After that, the follow list of numbers will be valid:

Examiner: (571) 272-3856.

Kim Y. Vu: (571) 272-3859

Receptionist: (571) 272-2100

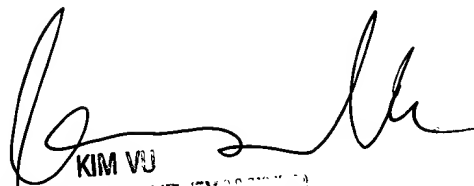
11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIR.I system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pzd-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Linh LD Son**

**Patent Examiner**



**KIM VU**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2135**